

CLAIMS**What is claimed is:****[C1]**

1. A system for selectively enabling/disabling at least a portion of the operation of an implantable device in response to an externally applied pulsed magnetic field, wherein said implantable device is configured for stimulating tissue within a patient's body and said implantable device is contained within a sealed elongate housing having an axial dimension of less than 60 mm and a lateral dimension of less than 6 mm, said system comprising:

a sensor within said implantable device sensitive to the presence of an externally applied magnetic field;

a controller within said implantable device coupled to said sensor for monitoring the presence of said externally applied magnetic field and determining a timing sequence for the application and removal of said externally provided magnetic field; and wherein

said controller is configured to enable/disable at least a portion of the operation of a selected one of said implantable devices in response to detection of an identifiable timing sequence of the application and removal of said externally provided magnetic field.

[C2]

2. The system of claim 1 additionally comprising:

a handheld device configured to be located external to the patient's body; and

a mechanism, configured for activation by the patient, within said handheld programmer configured to provide an identifiable timing sequence of the application and removal of a magnetic field.

- [C3] 3. The system of claim 2 wherein said mechanism is spring powered.
- [C4] 4. The system of claim 2 wherein said mechanism is electro-mechanically powered.
- [C5] 5. The system of claim 1 additionally comprising:
a handheld device configured to be located external to the patient's body;
a coil within said handheld device suitable for generating a magnetic field when energized;
driver circuitry within said handheld device for energizing said coil;
a controller within said handheld device for generating a sequence of magnetic fields; and
a power source for powering said handheld device.
- [C6] 6. The system of claim 1 wherein said sensor comprises a magnetoresistive sensor.
- [C7] 7. The system of claim 1 wherein said sensor comprises a saturated core sensor.
- [C8] 8. The system of claim 1 wherein said sensor dissipates power when sensing a magnetic field and said implantable device additionally comprises circuitry for periodically applying and removing power from said sensor and sampling said sensor during time periods corresponding to when said power is applied.

[C9]

9. The system of claim 1 wherein said sensor is configured for measuring the intensity of said externally applied magnetic field.

[C10]

10. The system of claim 9 wherein said sensor comprises a magnetoresistive sensor.

[C11]

11. The system of claim 1 wherein said sensor is configured for measuring the polarity of said externally applied magnetic field.

[C12]

12. The system of claim 1 wherein said sensor is configured for measuring the intensity and the polarity of said externally applied magnetic field.

[C13]

13. The system of claim 12 wherein said sensor comprises:
a magnetoresistive sensor; and
a bias magnet.

[C14]

14. A method for selectively enabling/disabling at least a portion of the operation of an implantable device, wherein said implantable device is configured for modifying and/or sensing a patient's body parameter, said method comprising the steps of:

sensing the presence or absence of an externally provided magnetic field;

measuring the duration of the presence or absence of said externally provided magnetic field to determine a timing sequence; and

enabling/disabling at least a portion of the operation of said implantable device according to the presence or absence of said externally provided magnetic field and the duration of said absence or presence of same.

[C15]

15. The method of claim 14 additionally comprising the steps of:

sensing at least one of the following: the intensity and the polarity of said externally provided magnetic field; and

enabling/disabling at least a portion of the operation of said implantable device according to sequential applications of said externally provided magnetic field wherein said magnetic field has two or more of the following distinct magnetic properties:

intensity, including absence or presence, of said externally provided magnetic field;

duration of said absence or presence of said externally provided magnetic field; and

polarity of said externally provided magnetic field.

[C16]

16. The method of claim 14 additionally comprising the steps of:

detecting the magnitude of said externally provided magnetic field; and

enabling/disabling at least a portion of the operation of said implantable device according to the magnitude of said externally provided magnetic field.

[C17]

17. The method of claim 14 additionally comprising the steps of:
detecting the polarity of said externally provided magnetic field;

and

enabling/disabling at least a portion of the operation of said implantable device according to the polarity of said externally provided magnetic field.

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[C18]

18. A system for selectively enabling/disabling at least a portion of the operation of an implantable device in response to an externally applied pulsed magnetic field, wherein said implantable device is configured for stimulating tissue within a patient's body, said system comprising:

a sensor within said implantable device sensitive to the presence of an externally applied magnetic field;

a controller within said implantable device coupled to said sensor for monitoring the presence of said externally applied magnetic field and determining a timing sequence for the application and removal of said externally provided magnetic field; and wherein

said controller is configured to enable/disable at least a portion of the operation of a selected one of said implantable devices in response to detection of an identifiable timing sequence of the application and removal of said externally provided magnetic field.

[C19]

19. The system of claim 18 additionally comprising:

a handheld device configured to be located external to the patient's body; and

a mechanism, configured for activation by the patient, within said handheld programmer configured to provide an identifiable timing sequence of the application and removal of a magnetic field.

[C20]

20. The system of claim 19 wherein said mechanism is spring powered.

[C21]

21. The system of claim 19 wherein said mechanism is electro-mechanically powered.

[C22]

22. The system of claim 18 additionally comprising:
- a handheld device configured to be located external to the patient's body;
 - a coil within said handheld device suitable for generating a magnetic field when energized;
 - driver circuitry within said handheld device for energizing said coil;
 - a controller within said handheld device for generating a sequence of magnetic fields; and
 - a power source for powering said handheld device.

[C23]

23. The system of claim 18 wherein said sensor comprises a magnetoresistive sensor.

[C24]

24. The system of claim 18 wherein said sensor comprises a saturated core sensor.

[C25]

25. The system of claim 18 wherein said sensor dissipates power when sensing a magnetic field and said implantable device additionally comprises circuitry for periodically applying and removing power from said sensor and sampling said sensor during time periods corresponding to when said power is applied.

[C26]

26. The system of claim 18 wherein said sensor is configured for measuring the intensity of said externally applied magnetic field.

[C27]

27. The system of claim 26 wherein said sensor comprises a magnetoresistive sensor.

[C28] 28. The system of claim 18 wherein said sensor is configured for measuring the polarity of said externally applied magnetic field.

[C29] 29. The system of claim 18 wherein said sensor is configured for measuring the intensity and the polarity of said externally applied magnetic field.

[C30] 30. The system of claim 29 wherein said sensor comprises:
a magnetoresistive sensor; and
a bias magnet.

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[C31]

31. A handheld programmer for selectively enabling/disabling at least a portion of the operation of an implantable device in response to an externally applied pulsed magnetic field, wherein the implantable device is configured for modifying and/or sensing a body parameter of a patient, said handheld programmer comprising:

a magnetic field source;

a housing for holding said magnetic field source; and

at least one mechanism for causing an identifiable pulsed magnetic field to be presented from said magnetic field source to the implantable device to thereby selectively enable/disable at least a portion of the operation of the implantable device.

[C32]

32. The handheld programmer of claim 31 wherein said magnetic field source is a permanent magnet.

[C33]

33. The handheld programmer of claim 31 wherein said magnetic field source is a coil that is electrically energizable.

[C34]

34. The handheld programmer of claim 33 wherein said handheld programmer additionally comprises:

a coil suitable for generating a magnetic field when energized;

driver circuitry for energizing said coil;

a controller for generating a sequence of magnetic fields; and

a power source for powering said handheld device.